

Pt. 1928, Subpt. C, App. A

29 CFR Ch. XVII (7–1–10 Edition)

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(iv) Two or more operator exits shall be provided and positioned to avoid the possibility of both being blocked by the same accident.

(2) *Static test-performance requirements.* In addition to meeting the requirements of paragraph (e)(1) of this section for both side and rear loads, FER_{is} and FER_{ir} shall be greater than 1.0.

(3) *Dynamic test-performance requirements.* The structural requirements shall be met when the dimensions in paragraph (e)(1) of this section are used in both side and rear loads.

(4) *Field-upset test performance requirements.* The requirements of paragraph (e)(1) of this section shall be met for both side and rear upsets.

[70 FR 77004, Dec. 29, 2005, as amended at 71 FR 41145, July 20, 2006]

APPENDIX A TO SUBPART C OF PART 1928—EMPLOYEE OPERATING INSTRUCTIONS

1. Securely fasten your seat belt if the tractor has a ROPS.
2. Where possible, avoid operating the tractor near ditches, embankments, and holes.
3. Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.
4. Stay off slopes too steep for safe operation.
5. Watch where you are going, especially at row ends, on roads, and around trees.
6. Do not permit others to ride.
7. Operate the tractor smoothly—no jerky turns, starts, or stops.
8. Hitch only to the drawbar and hitch points recommended by tractor manufacturers.
9. When tractor is stopped, set brakes securely and use park lock if available.

APPENDIX B TO SUBPART C OF PART 1928—FIGURES C-1 THROUGH C-16

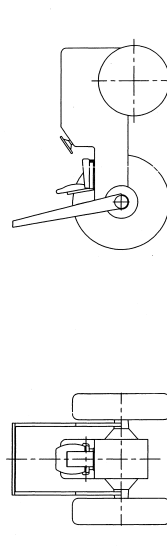


FIGURE C-1 - TRACTOR WITH TYPICAL PROTECTIVE FRAME.

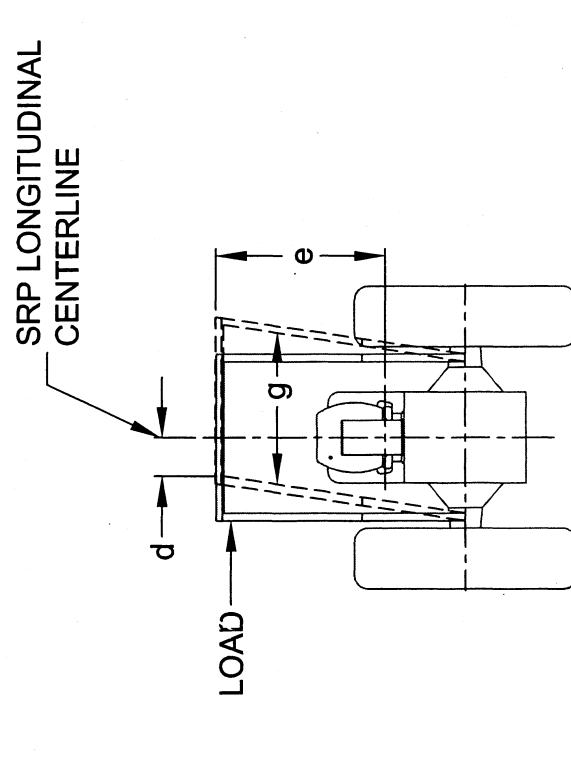


FIGURE C-2 - SIDE LOAD APPLICATION.

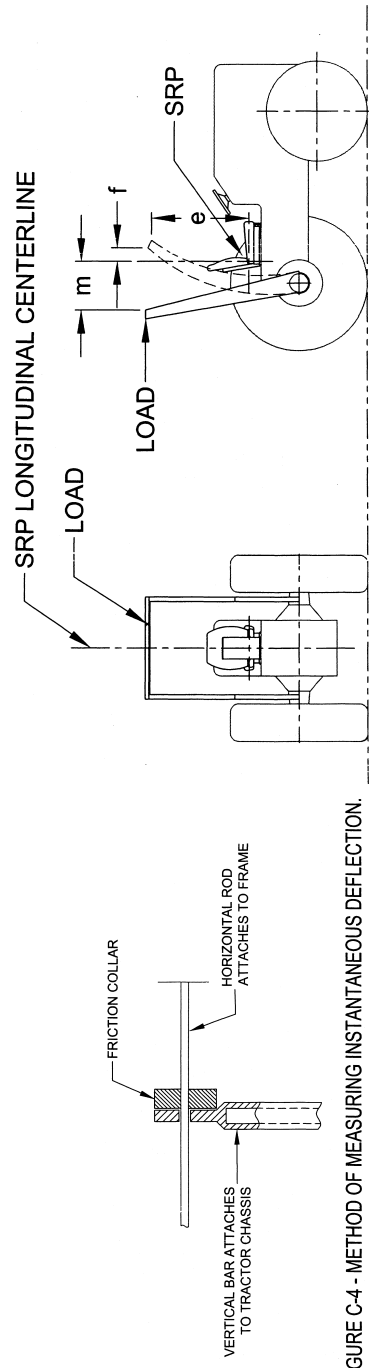


FIGURE C-3 - REAR LOAD APPLICATION.

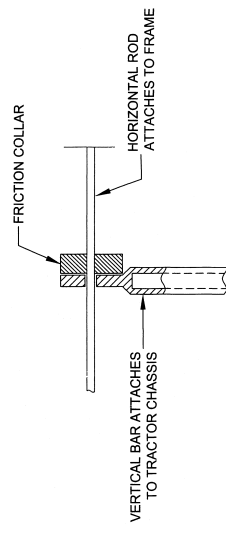


FIGURE C-4 - METHOD OF MEASURING INSTANTANEOUS DEFLECTION.

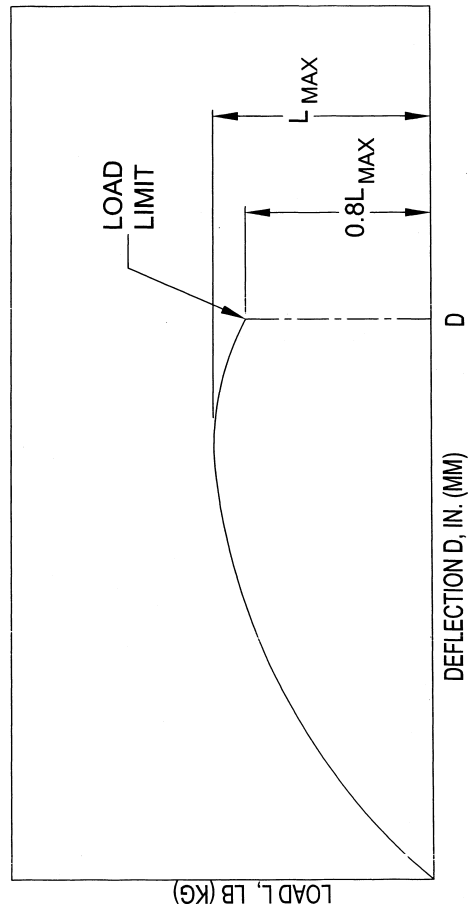


FIGURE C-5 - TYPICAL L-D DIAGRAM.

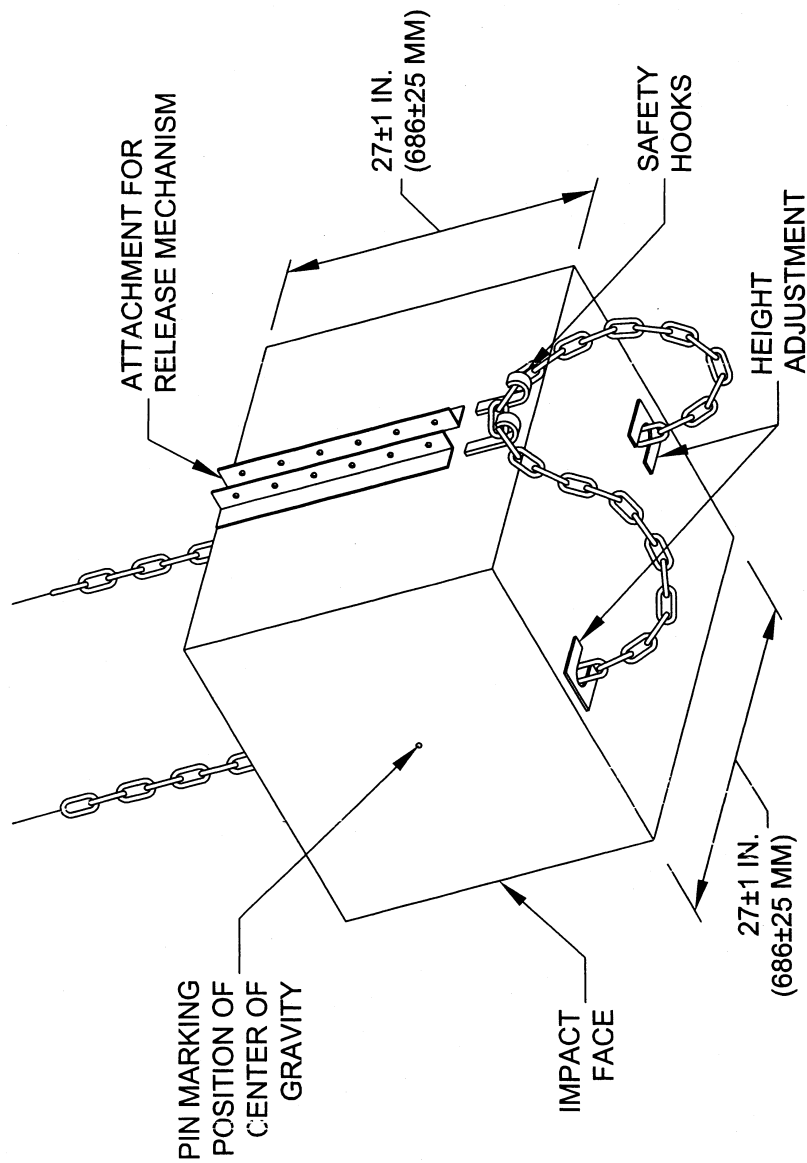
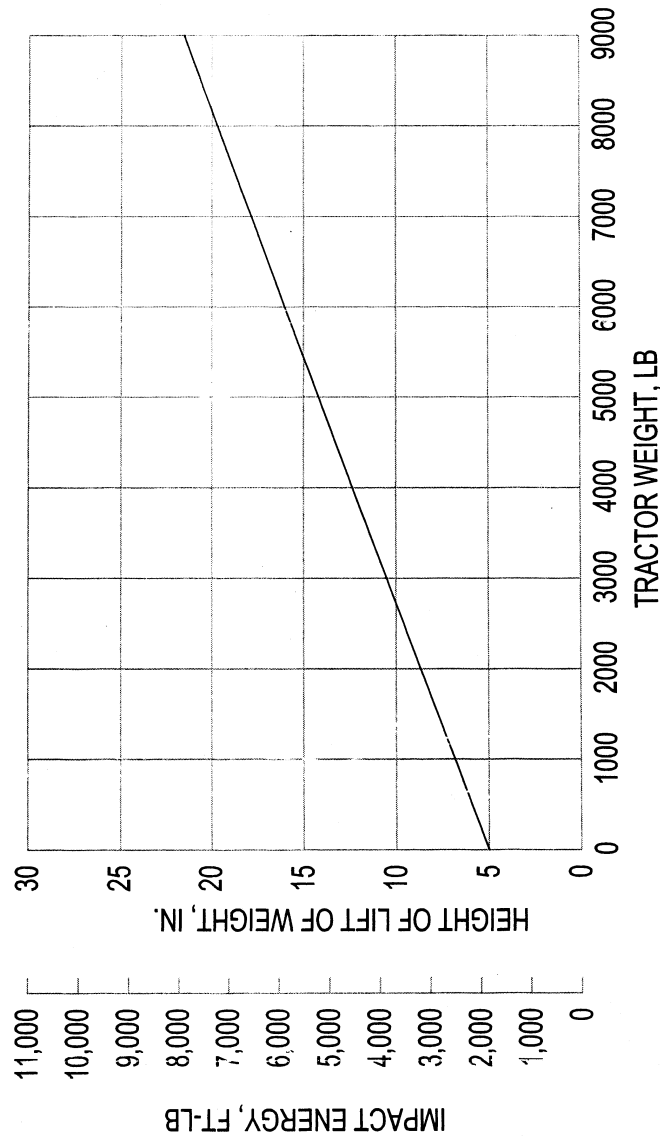


FIGURE C-6 - PENDULUM.



NOTATION OF FORMULAE

$$H = 4.92 + 0.00190W \text{ or } H' = 125 + 0.107W'$$

$$W = \text{tractor weight specified by 29 CFR 1928.51(a) in lbs (W' in kg).}$$

**FIGURE C-7 - IMPACT ENERGY AND CORRESPONDING
LIFT HEIGHT OF 4,410 LB (2,000 kg) WEIGHT.**

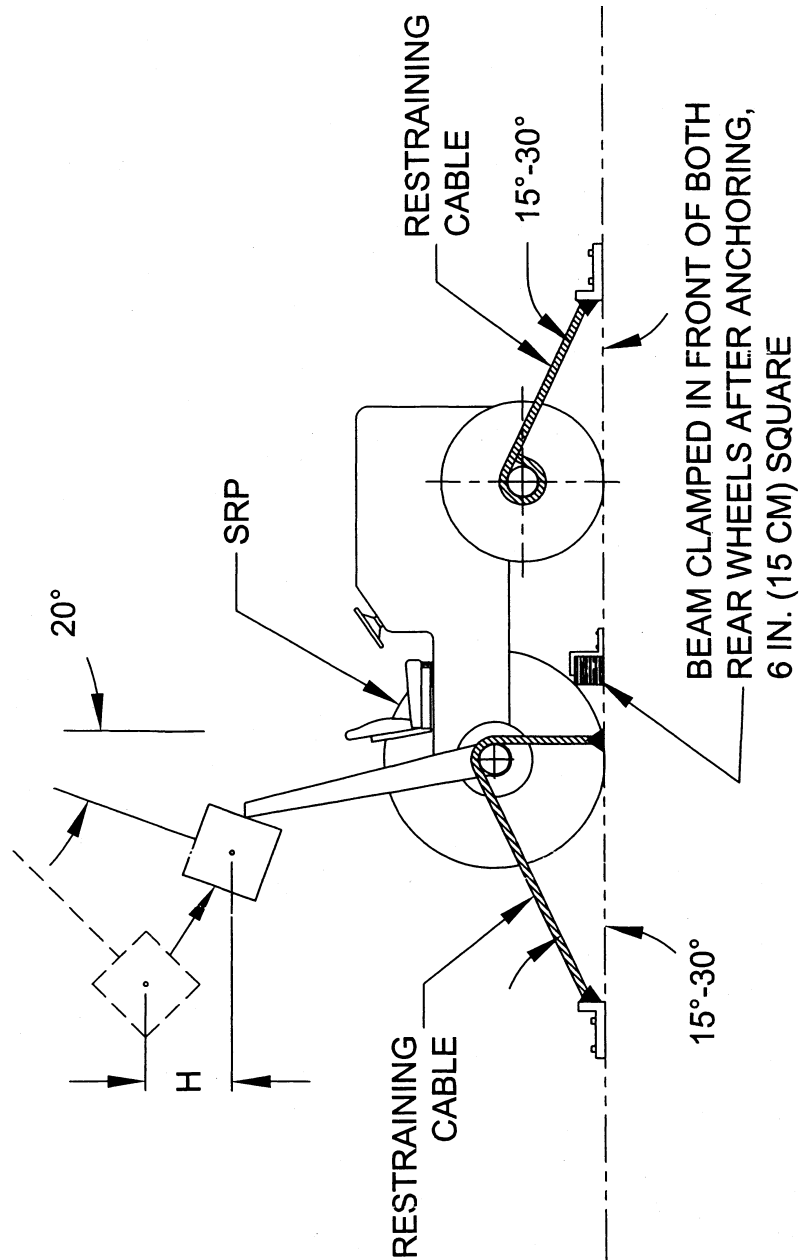


FIGURE C-8 - REAR IMPACT APPLICATION.

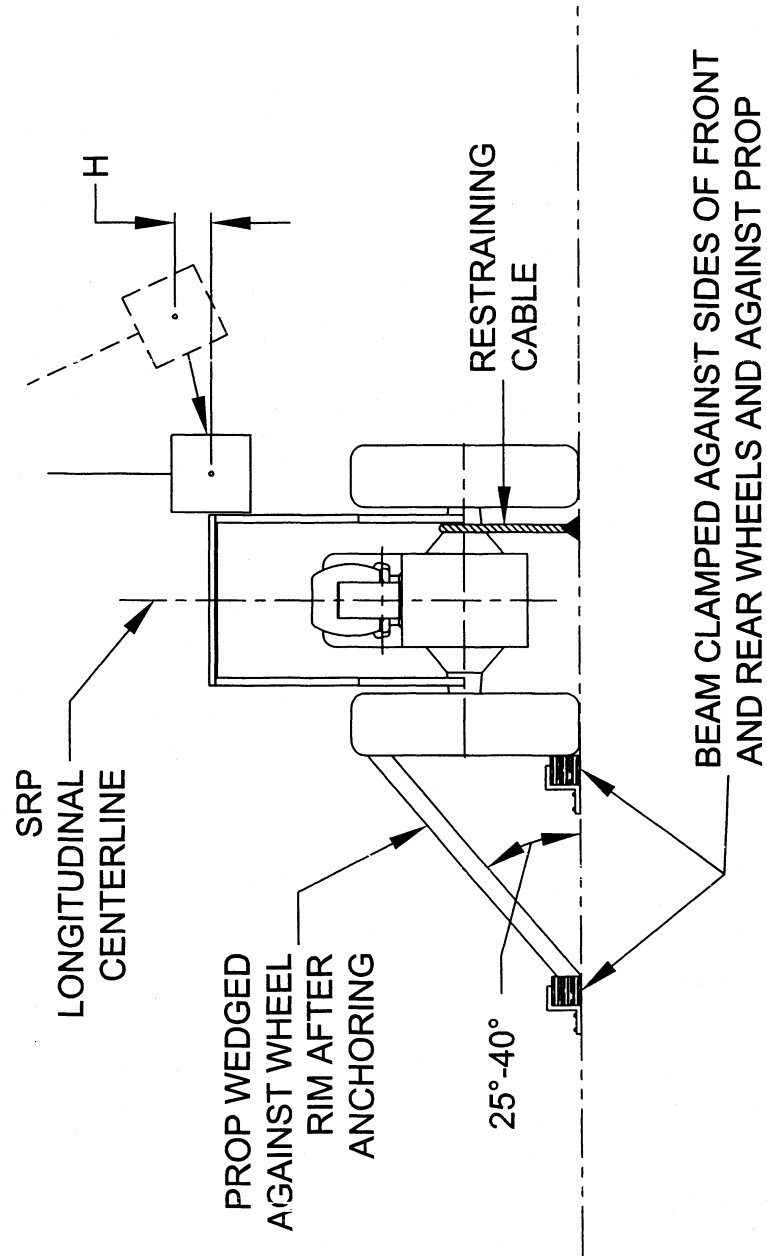


FIGURE C-9 - SIDE IMPACT APPLICATION.



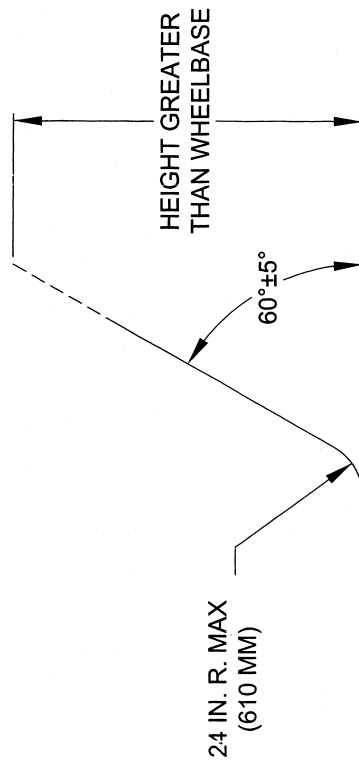


FIGURE C-11 - TYPICAL REAR OVERTURN BANK.

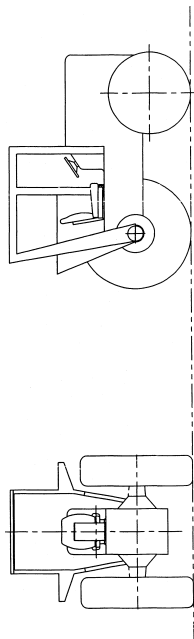


FIGURE C-12 - TRACTOR WITH TYPICAL
PROTECTIVE ENCLOSURE.

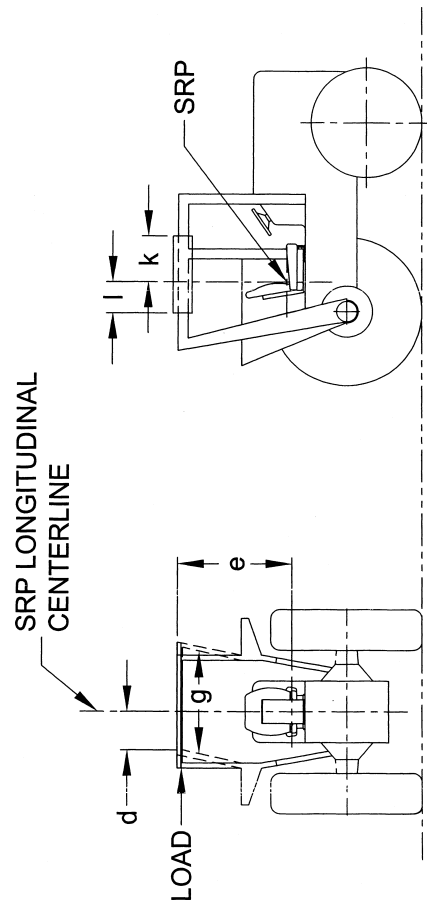


FIGURE C-13 - SIDE LOAD APPLICATION.

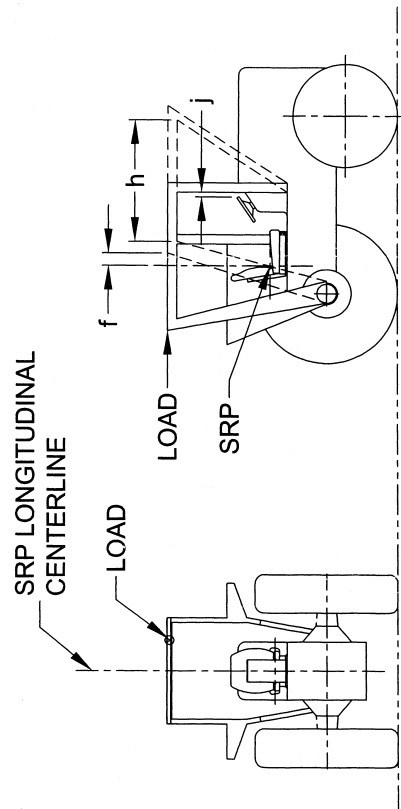


FIGURE C-14 - REAR LOAD APPLICATION.

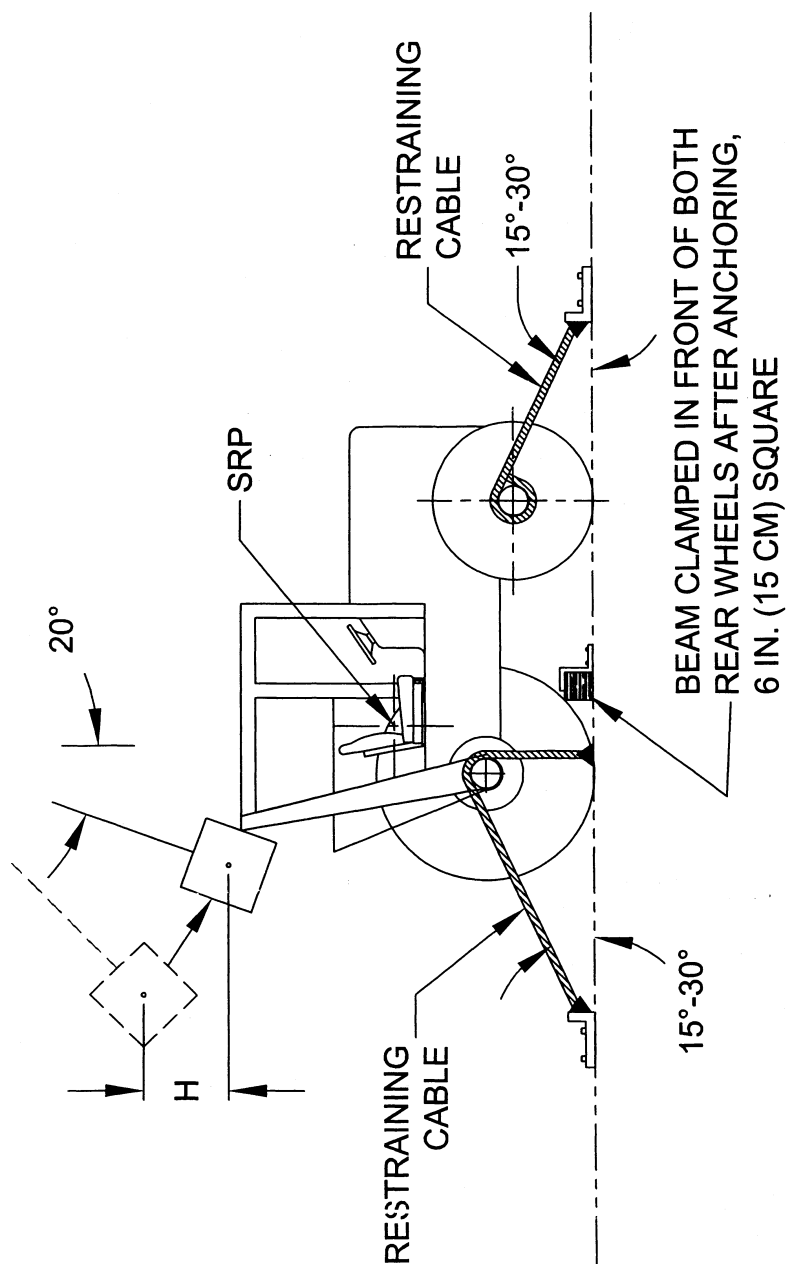


FIGURE C-15 - REAR IMPACT APPLICATION.

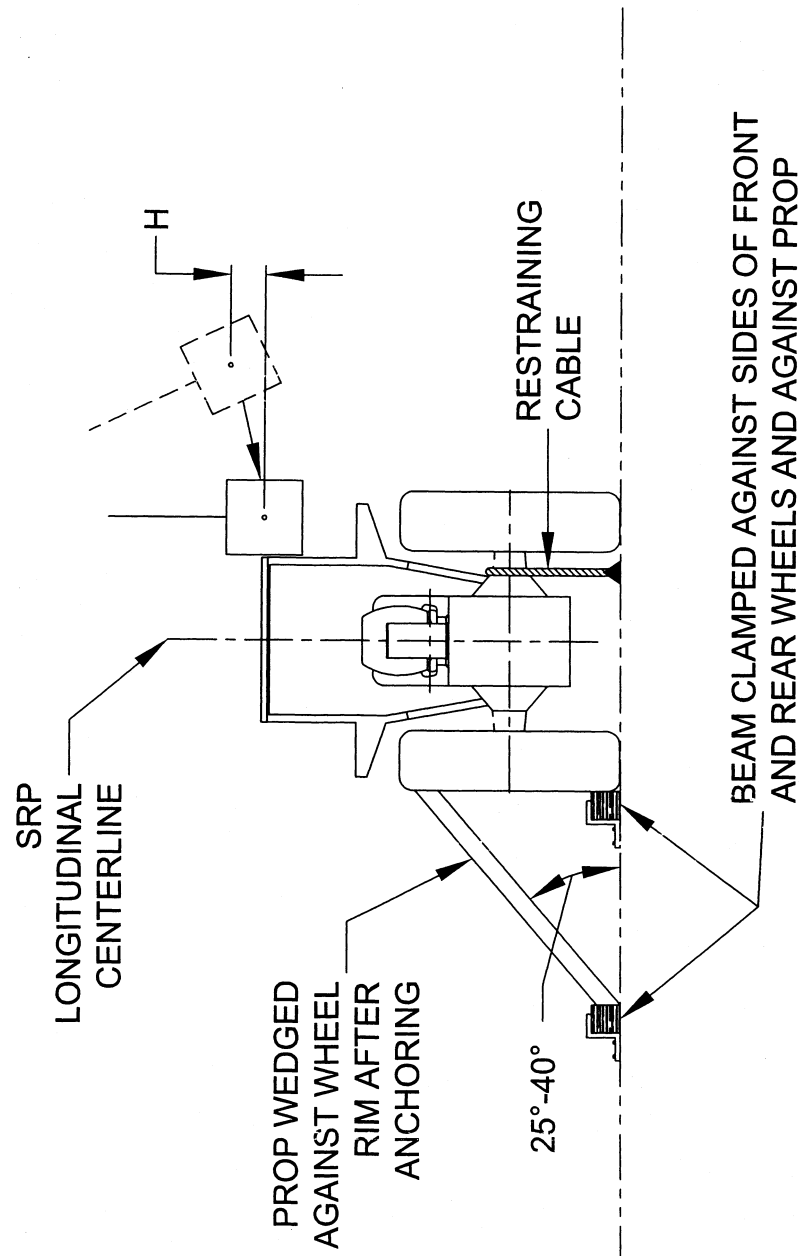


FIGURE C-16 - SIDE IMPACT APPLICATION.

[71 FR 41146, July 20, 2006]

Subpart D—Safety for Agricultural Equipment

§ 1928.57 Guarding of farm field equipment, farmstead equipment, and cotton gins.

(a) *General*—(1) *Purpose*. The purpose of this section is to provide for the protection of employees from the hazards associated with moving machinery parts of farm field equipment, farmstead equipment, and cotton gins used in any agricultural operation.

(2) *Scope*. Paragraph (a) of this section contains general requirements which apply to all covered equipment. In addition, paragraph (b) of this section applies to farm field equipment, paragraph (c) of this section applies to farmstead equipment, and paragraph (d) of this section applies to cotton gins.

(3) *Application*. This section applies to all farm field equipment, farmstead equipment, and cotton gins, except that paragraphs (b)(2), (b)(3), and (b)(4)(ii)(A), and (c)(2), (c)(3), and (c)(4)(ii)(A) do not apply to equipment manufactured before October 25, 1976.

(4) *Effective date*. This section takes effect on October 25, 1976, except that paragraph (d) of this section is effective on June 30, 1977.

(5) *Definitions*—*Cotton gins* are systems of machines which condition seed cotton, separate lint from seed, convey materials, and package lint cotton.

Farm field equipment means tractors or implements, including self-propelled implements, or any combination thereof used in agricultural operations.

Farmstead equipment means agricultural equipment normally used in a stationary manner. This includes, but is not limited to, materials handling equipment and accessories for such equipment whether or not the equipment is an integral part of a building.

Ground driven components are components which are powered by the turning motion of a wheel as the equipment travels over the ground.

A *guard* or *shield* is a barrier designed to protect against employee contact with a hazard created by a moving machinery part.

Power take-off shafts are the shafts and knuckles between the tractor, or other power source, and the first gear set, pulley, sprocket, or other components on power take-off shaft driven equipment.

(6) *Operating instructions*. At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all covered equipment with which he is or will be involved, including at least the following safe operating practices:

(i) Keep all guards in place when the machine is in operation;

(ii) Permit no riders on farm field equipment other than persons required for instruction or assistance in machine operation;

(iii) Stop engine, disconnect the power source, and wait for all machine movement to stop before servicing, adjusting, cleaning, or unclogging the equipment, except where the machine must be running to be properly serviced or maintained, in which case the employer shall instruct employees as to all steps and procedures which are necessary to safely service or maintain the equipment;

(iv) Make sure everyone is clear of machinery before starting the engine, engaging power, or operating the machine;

(v) Lock out electrical power before performing maintenance or service on farmstead equipment.

(7) *Methods of guarding*. Except as otherwise provided in this subpart, each employer shall protect employees from coming into contact with hazards created by moving machinery parts as follows:

(i) Through the installation and use of a guard or shield or guarding by location;

(ii) Whenever a guard or shield or guarding by location is infeasible, by using a guardrail or fence.

(8) *Strength and design of guards*. (i) Where guards are used to provide the protection required by this section, they shall be designed and located to protect against inadvertent contact with the hazard being guarded.

(ii) Unless otherwise specified, each guard and its supports shall be capable of withstanding the force that a 250